AD-A117 125 ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/G 6/2
19310C MLRS, MISSILE NUMBER BN-109, ROUND NUMBER V-264/P@-4.(U)
MAY 82 D C KELLER

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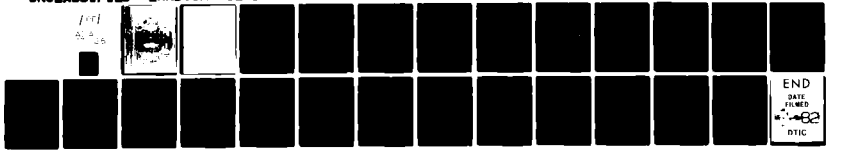

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18. SUPPLEMENTARY NOTES		
19. KEY WORDS *(Continue on reverse side if necessary and identify by block number)*		
20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)* Meteorological data gathered for the launching of the 19318C MLRS, Missile Number BN-109, Round Number V-264/PQ-4 presented in tabular form.		

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INTRODUCTION

19318C MLRS, Missile Number BN-109, Round Number V-264/PQ-4, was launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1505:07 MDT 28 May 1982. The scheduled launch time was 1505 MDT.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature (°C), relative humidity, dew point (°C), density (gm/m^3), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided form existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air

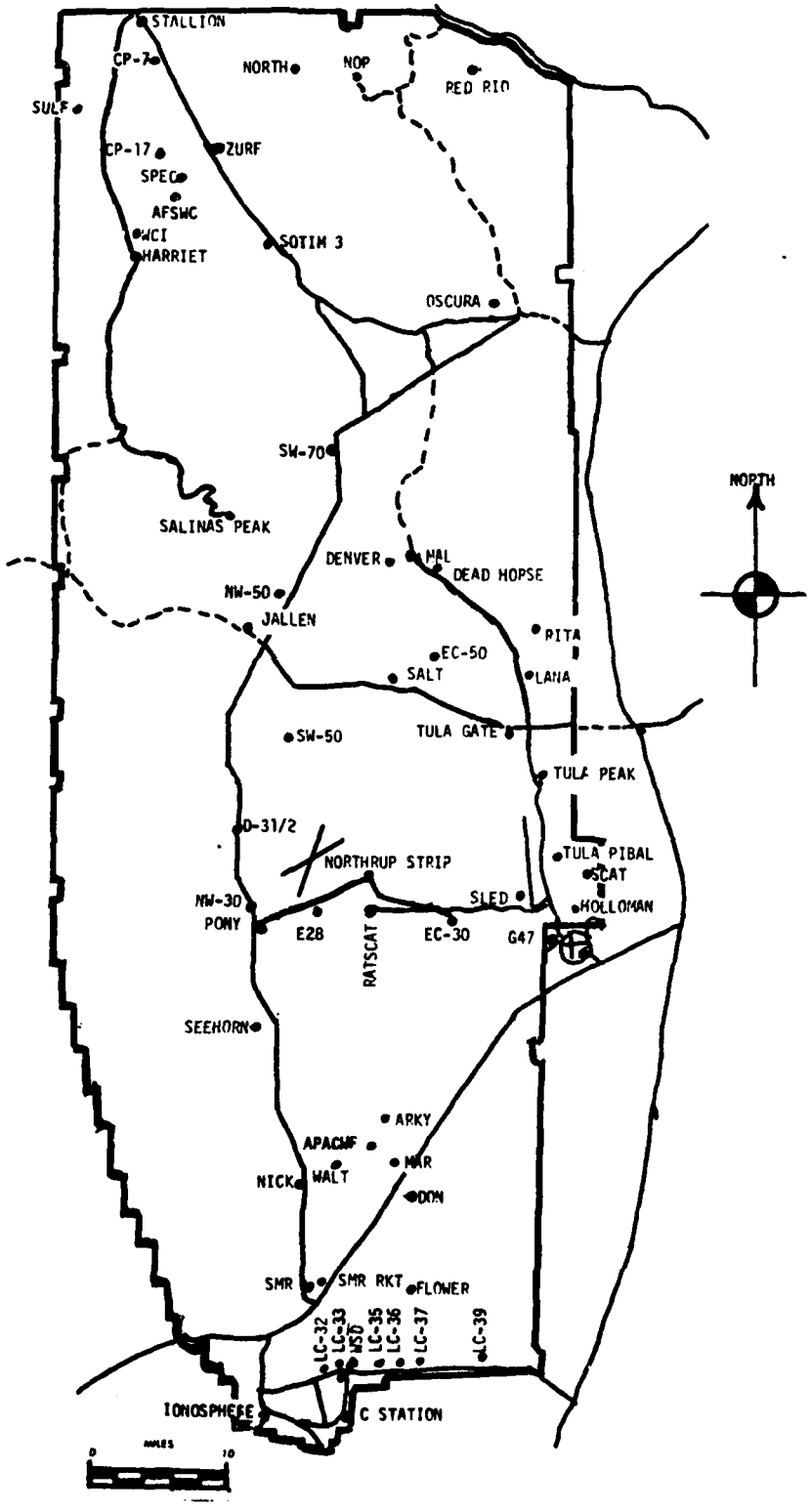
(1) Low level wind data were obtained form pilot-balloon observations at:

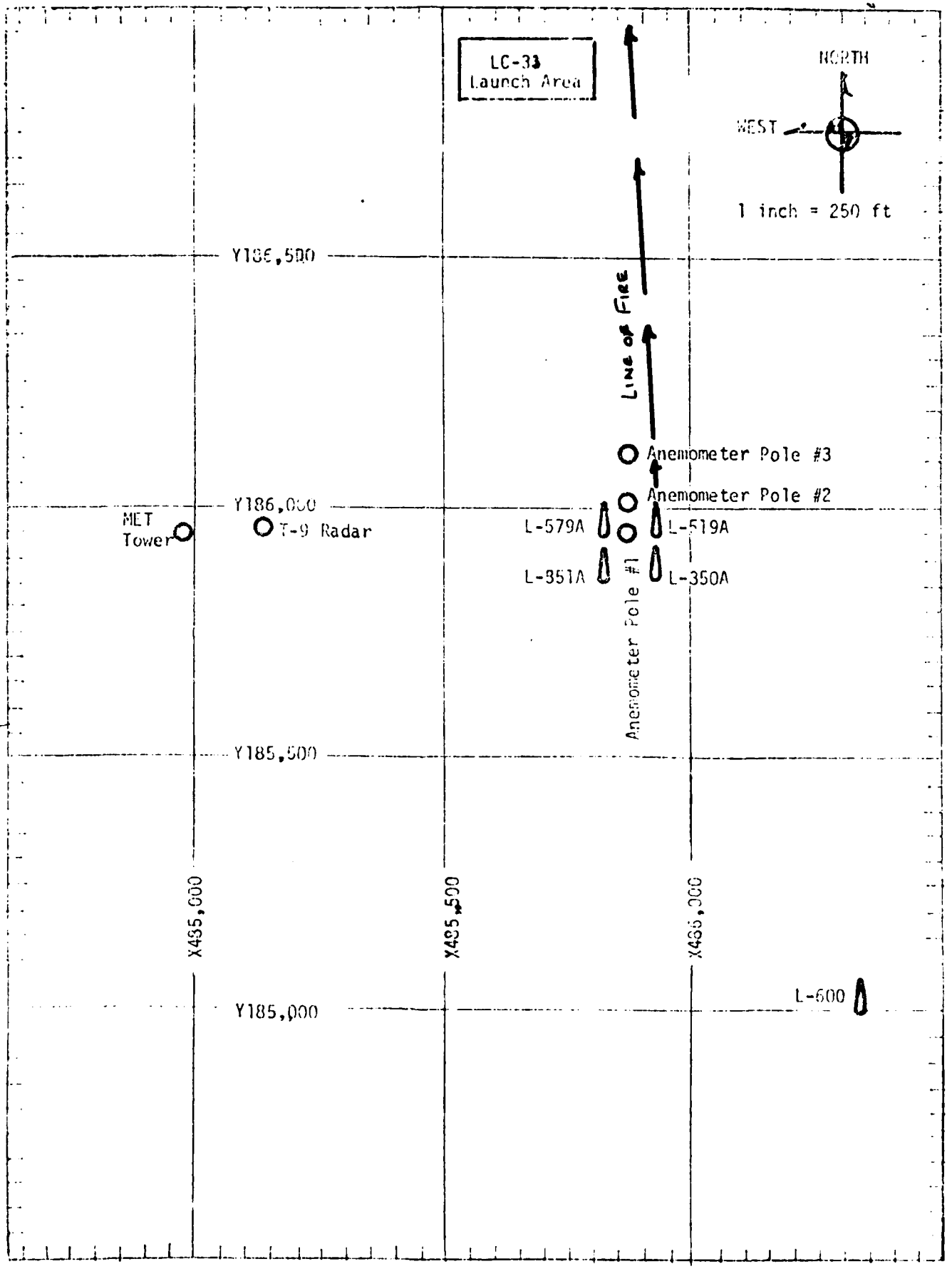
SITE AND ALTITUDE	
WSD	2 Km
Don	2 Km

(2) Air structure data (rawinsonde) were collected at the following Met Sites.

SITE AND TIME	
WSD	1235 MDT
LC-37	1325 MDT
LC-37	1505 MDT

WSMR METEOROLOGICAL SITES




LC-33
Launch Area
NORTH
WEST
1 inch = 250 ft
Y186,500
LINE OF FIRE
Anemometer Pole #3
Anemometer Pole #2
Y186,000
MET
Tower
T-9 Radar
L-579A
L-519A
L-351A
L-350A
Anemometer Pole #1
Y185,500
X485,000
X485,500
X486,000
L-600
Y185,000

PROJECT SURFACE OBSERVATION

TABLE 1

STATION LC-33 E&A

DATE 28 (DAY) May (MONTH) 82 (YEAR)

Y= 484,982.64 Y= 185,957.73 H= 3983.00

TIME MDT	PRESSURE mbs	TEMPERATURE °F	TEMPERATURE °C	DEW POINT °F	DEW POINT °C	RELATIVE HUMIDITY %	DENSITY gm/m³	WIND DIRECTION degs Tn	WIND SPEED kts	WIND CHARACTER kts	VISIBILITY
1507	873.5		30.2		1.4	16	1002	198	03		50

OBSTRUCTIONS TO VISIBILITY	CLOUDS 1st LAYER AMT	1st LAYER TYPE	1st LAYER HGT	2nd LAYER AMT	2nd LAYER TYPE	2nd LAYER HGT	3rd LAYER AMT	3rd LAYER TYPE	3rd LAYER HGT	REMARKS
	0									H ALQDS

PSYCHROMETRIC COMPUTATION

TIME:	1505		
DRY BULB TEMP.	30.2		
WET BULB TEMP.	14.0		
WET BULB DEPR.	16.2		
DEW POINT	1.4		
RELATIVE HUMID.	16		

TABLE 2 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1 X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL			POLE #2 X485,874.29 Y186.012.00 H4033.57 53.0 ft. AGL			POLE #3 X485,877.29 Y186,116.06 H4063.92 83.6 ft. AGL		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
-30	221	13	-30	225	10	-30	237	11
-20	216	15	-20	244	10	-20	237	16
-10	210	13	-10	237	12	-10	241	16
0.0	217	11	0.0	237	10	0.0	257	14
+10	212	09	+10	228	07	+10	252	12

TABLE 3 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #2, 62 FEET X484,982.64, Y185.057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
-30	221	08	-30	216	08
-20	223	05	-20	215	05
-10	203	04	-10	234	04
0.0	198	03	0.0	218	03
+10	228	02	+10	242	06

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
-30	216	10	-30	222	11
-20	208	07	-20	220	12
-10	212	07	-10	216	10
0.0	203	07	0.0	220	09
+10	200	08	+10	223	10

TABLE 4

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 28 May 82

SITE: WSD
TIME: 1516 MDT
WSTM COORDINATES:
X=488,580.00
Y=185,045.00
H= 3,989.00

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	260	09
150	255	12
210	251	16
270	255	16
330	255	17
390	252	17
500	247	18
650	241	21
800	246	19
950	247	16
1150	237	14
1350	240	14
1550	231	12
1750	221	11
2000	214	11

Data obtained from NIKE-HERC Radar Tracked pilot-balloon observation.

SITE: DON
TIME 1505 MDT
WSTM COORDINATES:
X=511,988.37
Y=247,396.36
H= 3,996.83

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	230	07
150	222	16
210	223	17
270	225	16
330	228	14
390	229	14
500	230	13
650	231	13
800	240	11
950	245	08
1150	242	07
1350	248	08
1550	254	15
1750	263	15
2000	260	15

Data obtained from RAPTS T-9 Radar Tracked pilot-balloon observation.

TABLE 5

AIMING AND T-TIME COMPUTER MET MESSAGES
28 May 1982

WSD 1235 MDT		LC-37 1325 MDT		LC-37 1505 MDT	
METCM1324064		METCM1324063		METCM1324063	
281860122875		281940124873		282110124873	
00462016	30260875	00391007	30070873	00516005	30400873
01448013	29910865	01336011	29910863	01532009	30030863
02477016	29640841	02377014	29620839	02499011	29760839
03490013	29250803	03420010	29280801	03451009	29400801
04524013	28780757	04439006	28780755	04404006	28940755
05529012	28320713	05486011	28310712	05383009	28450712
06490018	28000671	06515016	28050670	06415010	28040670
07553020	27720613	07536018	27780630	07525014	27770630
08540023	27420594	08522027	27450592	08530027	27450593
09526029	27120558	09518030	27110557	09523030	27130557
10523032	26780523	10527032	26690522	10524032	26760523
11507028	26530491	11522031	26340490	11530033	26450490
12505030	25980445	12520029	25900444	12512029	26010445

STATION ALTITUDE 3989.0 FEET MSL
28 MAY 82
ASCENSION NO. 242 1235 MDT

SIGNIFICANT LEVEL DATA
14000,0024,
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE-6

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT
875.2	3989.0	28.3	4.6	22.0
871.4	4115.0	25.4	2.4	22.0
850.0	4828.6	23.3	.4	22.0
777.8	7336.2	16.0	-.4	33.0
700.0	10235.1	8.0	-8.5	35.0
678.6	11075.1	7.0	-14.4	20.0
626.7	13209.2	3.5	-20.7	15.0
601.3	14307.7	1.4	-22.4	15.0
593.1	14670.6	.9	-22.8	15.0
535.5	17343.5	-4.1	-26.1	15.0
511.5	18526.0	-6.9	-29.1	15.0
500.0	19109.2	-7.1	-30.0	14.0
472.3	20563.5	-9.6	-32.0	14.0
427.5	23063.1	-16.2	-36.7	15.0
400.0	24695.7	-20.6	-40.4	15.0

STATION ALTITUDE 3989.00 FEET MSL
28 MAY 82 1235 MDT
ASCENSION NO. 242

UPPER AIR DATA
WHITE SANDS
TABLE-7

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON. DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	RELATIVE HUMIDITY PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION CORRECTION	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3989.0	875.2	28.3	4.6	22.9	1007.7	677.6	280.0	15.9	1.000263
4000.0	874.9	28.0	4.4	22.0	1006.2	677.5	280.1	15.9	1.000260
4500.0	859.8	24.3	1.2	22.6	1004.1	672.6	284.5	15.6	1.000252
5000.0	844.9	22.8	.5	22.8	991.7	671.1	289.0	15.4	1.000248
5500.0	830.3	21.3	.3	24.9	979.0	669.5	279.0	14.7	1.000246
6000.0	815.5	19.9	.4	27.1	966.6	667.9	277.0	13.5	1.000243
6500.0	801.2	18.4	.3	29.3	954.4	666.2	272.1	13.0	1.000240
7000.0	787.1	17.0	-.0	31.5	942.3	664.5	278.1	13.0	1.000237
7500.0	773.2	15.5	-.6	33.1	930.3	662.9	287.0	13.3	1.000234
8000.0	759.3	14.2	-1.7	33.5	918.1	661.2	293.7	13.3	1.000229
8500.0	745.6	12.8	-2.7	33.8	906.1	659.6	297.5	12.7	1.000225
9000.0	732.1	11.4	-3.8	34.1	894.2	658.0	290.4	13.1	1.000221
9500.0	719.3	10.0	-4.9	34.5	882.5	656.3	290.7	13.3	1.000217
10000.0	706.9	8.6	-6.0	34.8	871.0	654.7	291.0	13.4	1.000213
10500.0	693.2	7.7	-8.0	30.3	858.4	653.4	287.5	14.0	1.000207
11000.0	680.5	7.1	-13.5	21.3	844.9	652.0	283.4	14.9	1.000199
11500.0	667.9	6.3	-15.6	19.0	831.8	650.6	285.0	15.8	1.000194
12000.0	655.6	5.5	-17.0	17.8	818.9	650.0	290.5	16.7	1.000190
12500.0	643.5	4.7	-18.5	16.7	806.2	649.0	290.4	17.8	1.000187
13000.0	631.6	3.8	-20.0	15.5	793.8	648.0	286.7	19.2	1.000183
13500.0	619.9	2.9	-21.1	15.0	781.6	647.3	287.2	20.8	1.000180
14000.0	608.3	2.0	-21.9	15.0	769.7	646.4	287.0	22.0	1.000177
14500.0	596.9	1.1	-22.6	15.0	757.7	645.4	286.0	23.2	1.000174
15000.0	585.7	.3	-23.2	15.1	745.7	644.4	282.6	24.0	1.000171
15500.0	574.6	-.7	-23.8	15.3	734.1	643.3	279.4	25.6	1.000168
16000.0	563.7	-1.6	-24.4	15.5	722.7	642.2	279.7	29.0	1.000165
16500.0	553.0	-2.5	-25.0	15.7	711.5	641.1	279.5	30.2	1.000163
17000.0	542.6	-3.5	-25.7	15.9	700.5	639.9	279.1	31.0	1.000160
17500.0	532.3	-4.5	-26.5	15.9	689.6	638.7	279.2	31.7	1.000157
18000.0	522.0	-5.7	-27.6	15.4	679.0	637.5	279.4	32.4	1.000155
18500.0	512.0	-6.8	-29.0	15.0	668.5	636.9	282.4	31.6	1.000152
19000.0	502.1	-7.1	-29.8	14.2	657.2	635.6	279.2	31.2	1.000149
19500.0	492.4	-7.8	-30.5	14.0	648.1	634.8	287.0	30.5	1.000146
20000.0	482.8	-8.6	-31.2	14.0	638.7	633.7	284.5	29.7	1.000144
20500.0	473.5	-9.5	-31.9	14.0	629.4	632.7	281.2	29.0	1.000142
21000.0	464.2	-10.8	-32.8	14.2	619.0	631.2	281.5	28.8	1.000139
21500.0	455.0	-12.1	-33.8	14.4	608.9	629.6	281.9	28.7	1.000137
22000.0	446.0	-13.4	-34.7	14.6	598.0	628.0	282.9	28.2	1.000135
22500.0	437.2	-14.7	-35.7	14.8	589.2	626.4	284.2	27.5	1.000133
23000.0	428.6	-16.0	-36.6	15.0	580.5	624.8			1.000131

STATION ALTITUDE 3989.00 FEET MSL
28 MAY 82 1235 MDT
ASCENSION NO. 242

UPPER AIR DATA
1400024242
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE-7 cont'd

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
23500.0	420.0	-17.4	-37.7	15.0	571.9	623.1			1.000129
24000.0	411.5	-18.7	-38.8	15.0	563.3	621.5			1.000127
24500.0	403.2	-20.1	-39.9	15.0	554.9	619.8			1.000125

STATION ALTITUDE 3989.0 FEET MSL
28 MAY 82 1235 MDT
ASCENSION NO. 242

LABORATORY LEVELS
34860.0242
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE-8

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEW POINT	RELATIVE HUMIDITY PERCENT	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS
650.0	4825.	23.3	.4	2.	267.4	15.5
600.0	6543.	18.3	.2	3.	272.7	17.0
750.0	8339.	13.2	-2.4	34.	290.3	12.9
700.0	10225.	8.0	-6.5	3.	289.8	13.5
650.0	12220.	5.1	-17.7	17.	292.3	17.1
600.0	14348.	1.3	-22.4	1.	300.3	22.9
550.0	16628.	-2.8	-25.2	1.	294.9	30.4
500.0	19082.	-7.1	-30.0	1.	289.8	31.1
450.0	21751.	-12.8	-34.3	1.	282.3	28.5
400.0	24654.	-20.6	-40.4	1.		

STATION ALTITUDE 4051.47 FEET MSL
28 MAY 82 1325 MDT
ASCENSION NO. 50

SIGNIFICANT LEVEL DATA
14801C0050
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.51232 LON DEG

TABLE-9

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	DEWPOINT	REL HUM PERCENT
873.4	4051.4	26.6	4.4	24.0
850.0	4832.1	23.0	-.5	21.0
824.8	5689.2	21.2	.4	25.0
796.8	8103.4	14.1	-1.1	35.0
700.0	10242.3	7.8	-2.2	49.0
683.6	10883.6	6.8	-10.9	27.0
665.8	11596.3	7.5	-16.7	16.0
623.2	13372.0	3.7	-20.5	15.0
558.6	16261.4	-1.9	-25.0	15.0
500.0	19117.3	-9.4	-31.1	15.0
484.2	19932.5	-10.3	-31.9	15.0
470.0	20686.0	-10.6	-32.8	14.0
400.0	24689.0	-20.6	-39.7	16.0

STATION ALTITUDE 4651.37 FEET MSL
28 MAY 82 1325 MDT
ASCENSION NO. 50

UPPER AIR DATA
14301060056
LC-37
TABLE-10

GEODETIC COORDINATES
32.40175 LAT DEG
106.51232 LON DEG

GEOMETRIC ALTITUDE	PRESSURE	TEMPERATURE AIR	TEMPERATURE DEWPOINT	REL.HUM.	DENSITY	SPEED OF SOUND	WIND DATA DIRECTION	WIND DATA SPEED	INDEX OF
MSL FEET	MILLIBARS	DEGREES CENTIGRADE		PERCENT	GM/CUBIC METER	KNOTS	DEGREES(TN)	KNOTS	REFRACTION
4651.4	873.4	26.6	4.4	24.0	1011.4	675.7	220.0	7.0	1.000261
4500.0	859.9	24.5	1.6	22.3	1003.2	675.2	223.0	7.1	1.000253
5000.0	845.0	22.6	-.3	21.8	992.5	670.9	226.8	7.3	1.000247
5500.0	830.3	21.6	.3	24.1	978.6	669.3	230.2	7.5	1.000245
6000.0	815.7	20.3	.3	26.3	965.6	668.3	233.4	7.7	1.000243
6500.0	801.3	18.8	.1	28.4	953.3	666.6	236.3	7.9	1.000240
7000.0	787.2	17.3	-.2	30.4	941.2	665.0	239.0	8.0	1.000237
7500.0	773.3	15.9	-.6	32.5	929.3	663.3	245.0	7.6	1.000234
8000.0	759.6	14.4	-1.0	34.6	917.6	661.6	250.9	7.3	1.000230
8500.0	745.9	12.9	-1.2	37.6	905.7	659.9	257.9	7.6	1.000228
9000.0	732.4	11.5	-1.4	40.9	894.0	658.2	264.2	8.6	1.000225
9500.0	719.2	10.0	-1.6	44.1	882.4	656.5	270.3	10.0	1.000222
10000.0	706.2	8.5	-2.0	47.4	871.0	654.7	275.0	11.8	1.000219
10500.0	693.4	7.4	-5.2	46.2	859.0	653.3	279.0	13.4	1.000211
11000.0	680.7	6.9	-11.6	25.2	845.5	652.4	280.2	14.1	1.000200
11500.0	668.2	7.4	-15.7	17.5	828.8	652.9	282.0	14.9	1.000193
12000.0	655.9	6.6	-17.5	15.8	815.9	651.9	286.3	15.9	1.000189
12500.0	643.8	5.6	-18.6	15.5	804.0	650.7	287.5	17.4	1.000186
13000.0	631.9	4.5	-19.7	15.2	792.2	649.4	288.0	18.9	1.000183
13500.0	620.2	3.5	-20.7	15.0	780.5	648.2	288.5	20.6	1.000180
14000.0	608.6	2.5	-21.5	15.0	768.6	647.0	290.2	23.0	1.000177
14500.0	597.1	1.5	-22.3	15.0	756.9	645.9	294.3	25.5	1.000174
15000.0	585.9	.5	-23.0	15.0	745.5	644.7	293.1	27.4	1.000171
15500.0	574.9	-.4	-23.8	15.0	734.0	643.6	292.0	28.6	1.000168
16000.0	564.2	-1.4	-24.6	15.0	722.6	642.4	291.9	29.9	1.000165
16500.0	553.5	-2.5	-25.5	15.0	711.1	641.0	292.6	29.9	1.000163
17000.0	542.8	-3.8	-26.6	15.0	701.8	639.5	293.7	29.3	1.000160
17500.0	532.4	-5.2	-27.7	15.0	691.7	637.9	295.0	28.7	1.000157
18000.0	522.2	-6.5	-28.8	15.0	681.6	636.3	295.5	29.6	1.000155
18500.0	512.1	-7.8	-29.8	15.0	672.0	634.8	296.9	30.7	1.000152
19000.0	502.3	-9.1	-30.9	15.0	662.4	633.2	296.2	31.7	1.000150
19500.0	492.5	-9.8	-31.5	15.0	651.4	632.3	294.7	31.8	1.000147
20000.0	482.9	-10.3	-32.0	14.9	639.9	631.7	295.2	32.0	1.000145
20500.0	473.5	-10.5	-32.6	14.2	627.8	631.4	292.9	31.2	1.000142
21000.0	464.1	-11.4	-33.4	14.2	617.4	630.4	293.3	29.7	1.000140
21500.0	454.8	-12.6	-34.2	14.4	606.0	628.9	293.0	28.4	1.000137
22000.0	445.8	-13.9	-35.1	14.7	596.3	627.4	293.1	28.7	1.000135
22500.0	436.9	-15.1	-35.9	14.9	589.7	625.9	292.6	29.0	1.000133
23000.0	428.2	-16.4	-36.8	15.2	580.6	624.3			1.000131
23500.0	419.6	-17.6	-37.6	15.4	572.6	622.8			1.000129

STATION ALTITUDE 4251.37 FEET MSL
28 MAY 82
ASCENSION NO. 58 1325 MDT

UPPER AIR DATA
14801d0058
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.51232 LON DEG

TABLE-10 cont'd

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
24000.0	411.3	-18.9	-38.5	15.7	563.3	621.3			1.000167
24500.0	403.1	-20.1	-39.4	15.9	554.8	619.7			1.000165

STATION ALTITUDE 4051.7 FEET MSL
28 MAY 82 1325 MDT
ASCENSION NO. 50

RADIATOPY LEVELS
TA801800SO
LC-37

TABLE-11

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

PRESSURE	GEOPOTENTIAL	TEMPERATURE AIR	TEMPERATURE DEWPOINT	REL.HUM.	WIND DATA DIRECTION	WIND DATA SPEED
MILLIBARS	FEET	DEGREES CENTIGRADE		PERCENT	DEGREES(TN)	KNOTS
850.0	4829.	23.0	-.5	21.	225.0	7.2
800.0	6547.	18.7	.1	29.	230.0	6.0
750.0	8340.	13.4	-1.1	37.	255.8	7.4
700.0	10232.	7.8	-2.2	49.	277.4	14.6
650.0	12231.	1.1	-18.0	10.	290.9	18.6
600.0	14363.	-5.8	-22.1	10.	294.7	24.9
550.0	16645.	-12.9	-25.9	10.	292.9	29.7
500.0	19091.	-9.4	-31.1	10.	295.9	31.7
450.0	21747.	-13.3	-34.7	10.	293.4	28.5
400.0	24648.	-20.6	-39.7	10.		

STATION ALTITUDE 4051.7 FEET MSL
28 MAY 82 1505 MDT
ASCENSION NO. 51

SIGNIFICANT LEVEL DATA
14301800S4
LC-37

TABLE-12

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	RELATIVE HUMIDITY PERCENT
872.6	4051.4	30.0	1.5	16.0
864.4	4332.1	25.6	-.5	18.0
850.0	4815.4	24.7	.5	20.0
771.7	7557.3	17.2	-1.0	29.0
712.2	9779.8	10.6	-2.1	41.0
700.0	10251.7	9.1	-1.9	46.0
683.4	10903.7	7.5	-1.7	52.0
674.0	11278.1	6.3	-3.5	50.0
664.3	11664.8	6.2	-8.5	34.0
655.2	12040.2	6.2	-15.7	19.0
547.4	16800.8	-2.8	-25.8	15.0
521.7	18046.5	-5.8	-27.5	16.0
500.0	19134.8	-8.8	-30.7	15.0
488.4	19733.1	-8.5	-30.4	15.0
480.1	20169.7	-9.1	-30.9	15.0
454.7	21546.9	-11.4	-32.8	15.0
400.0	24726.2	-20.2	-39.4	16.0

STATION ALTITUDE 4051.37 FEET MSL
28 MAY 82 1505 MDT
ASCENSION NO. 01

UPPER AIR DATA
14A0130051
LC-37

TABLE-13

GEODETIC COORDINATES
32.40175 LAT DEG
106.31252 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	RELATIVE HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
4051.4	872.8	3.0	1.5	16.0	1000.0	679.3	290.0	5.1	1.000251
4500.0	859.4	2.3	-.2	18.7	1000.5	679.9	290.9	5.6	1.000249
5000.0	844.5	1.4	.3	20.6	988.6	677.7	292.7	6.3	1.000247
5500.0	829.7	2.8	.2	22.2	975.8	675.2	290.3	7.1	1.000244
6000.0	815.2	2.5	.0	23.9	961.3	672.4	291.2	8.0	1.000241
6500.0	801.0	2.1	-.2	25.5	946.9	669.6	292.2	8.1	1.000238
7000.0	787.0	1.7	-.5	27.2	933.7	667.0	293.1	7.2	1.000235
7500.0	773.3	1.4	-.9	28.8	924.7	665.2	292.9	6.6	1.000232
8000.0	759.5	0.9	-1.6	31.4	912.8	662.8	292.2	6.8	1.000229
8500.0	745.9	0.4	-1.2	34.1	901.1	661.6	292.0	7.1	1.000226
9000.0	732.5	0.9	-1.5	36.8	889.5	659.8	291.0	7.7	1.000224
9500.0	719.4	1.4	-1.8	39.5	877.2	657.1	291.0	8.7	1.000221
10000.0	706.5	0.9	-2.0	43.3	867.0	655.4	291.7	9.7	1.000218
10500.0	693.8	0.5	-1.8	48.3	855.5	653.8	291.1	10.1	1.000216
11000.0	681.3	0.2	-2.1	51.5	843.7	651.2	290.0	10.4	1.000213
11500.0	669.5	0.2	-6.0	49.9	831.7	651.9	290.0	10.5	1.000209
12000.0	658.2	0.2	-14.7	20.6	817.4	651.5	290.3	10.9	1.000192
12500.0	647.9	0.3	-16.6	18.6	804.7	650.4	277.1	12.4	1.000187
13000.0	638.9	0.4	-17.7	18.2	792.4	649.3	280.9	14.9	1.000184
13500.0	630.1	0.4	-18.7	17.8	780.3	648.2	290.7	17.6	1.000181
14000.0	621.5	0.5	-19.8	17.4	768.4	647.1	297.0	20.0	1.000177
14500.0	613.1	1.5	-20.9	16.9	756.7	645.9	298.2	23.5	1.000174
15000.0	604.9	0.6	-21.9	16.5	745.1	644.8	298.4	26.4	1.000171
15500.0	596.8	-0.3	-23.0	16.1	733.7	643.7	297.2	27.5	1.000168
16000.0	588.9	-1.3	-24.0	15.7	722.6	642.5	295.6	28.2	1.000165
16500.0	581.2	-2.2	-25.1	15.3	711.5	641.4	294.9	29.0	1.000163
17000.0	573.7	-3.3	-26.0	15.2	700.9	640.1	294.3	29.9	1.000160
17500.0	566.4	-4.5	-26.7	15.6	690.6	638.7	294.1	30.8	1.000157
18000.0	559.2	-5.7	-27.5	16.0	680.4	637.3	295.2	31.5	1.000155
18500.0	552.2	-7.1	-28.8	15.6	670.7	635.9	296.3	32.3	1.000152
19000.0	545.4	-8.4	-30.3	15.1	661.2	634.6	296.9	32.4	1.000150
19500.0	538.9	-8.6	-30.5	15.0	651.9	633.7	297.5	32.4	1.000147
20000.0	532.3	-8.9	-30.7	15.0	643.8	632.4	296.1	32.1	1.000144
20500.0	525.9	-9.7	-31.4	15.0	635.3	631.3	292.7	31.5	1.000142
21000.0	519.6	-10.5	-32.0	15.0	626.0	630.0	289.2	31.1	1.000139
21500.0	513.5	-11.3	-32.7	15.0	618.9	628.8	288.0	29.3	1.000137
22000.0	507.5	-12.7	-33.7	15.1	610.9	627.9	288.0	27.4	1.000135
22500.0	501.6	-14.0	-34.8	15.3	603.1	627.2			1.000133
23000.0	495.8	-15.4	-35.9	15.5	595.5	626.5			1.000131
23500.0	490.3	-16.8	-36.8	15.6	587.0	625.8			1.000129

STATION ALTITUDE 4,51•7 FEET MSL
28 MAY 82 1505 MDT
ASCENSION NO. 51

UPPER AIR DATA
1630180051
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

TABLE-13 cont'd

GEOMETRIC ALTITUDE	PRESSURE	TEMPERATURE AIR	TEMPERATURE DEWPOINT	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
HSL FEET	MILLIBARS	DEGREES CENTIGRADE							
24000.0	411.9	-18.2	-37.9	15.8	562.7	632.1			1.000127
24500.0	403.7	-19.6	-38.9	15.9	554.5	630.4			1.000125

STATION ALTITUDE 4051.7 FEET MSL
28 MAY 82
ASCENSION NO. 51 1505 MDT

MANDATORY LEVELS
1.0010E05
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.51232 LON DEG

TABLE-14

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT DEGREES CENTIGRADE	RELATIVE HUMIDITY PERCENT	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS
850.0	4812.	24.7	.5	20.	275.5	6.0
800.0	6536.	20.6	-.5	20.	254.4	8.0
750.0	8346.	14.9	-1.1	35.	225.5	7.0
700.0	10242.	9.1	-1.9	46.	217.2	10.1
650.0	12241.	5.8	-16.1	19.	269.5	11.5
600.0	14373.	1.8	-20.6	17.	295.1	22.8
550.0	16656.	-2.6	-25.5	15.	294.7	29.3
500.0	19108.	-8.8	-30.7	15.	297.6	32.4
450.0	21775.	-12.1	-33.5	15.	267.5	20.1
400.0	24685.	-20.2	-39.4	16.		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